

CLAIMS

1. A vital data utilization system comprising:

a server;

a receiving apparatus; and

5 a plurality of measurement instruments,

wherein said server, said receiving apparatus and said measurement instruments are connected to each other via a communication network,

each of said measurement instruments includes:

10 a vital data measurement unit operable to measure vital data of a subject; and

a sending unit operable to send, to said server, the measured vital data,

said server includes:

15 a receiving unit operable to receive, from said plurality of measurement instruments, a plurality of vital data, one of which being the vital data;

a storage unit operable to hold each vital data in association with at least one of (i) measurement position information indicating a position of said each measurement instrument and (ii) residence information indicating a position of each subject's residence at which said each measurement instrument is placed;

20 a database making unit operable to store the received plurality of vital data into said storage unit and operable to make a database;

25 a value-added information making unit operable to compute the respective vital data of a plurality of subjects stored in the database based on at least one of the (i) measurement position information and (ii) residence information, and operable to make value-added information indicating a geographical distribution of the vital data; and

a value-added information providing unit operable to provide

said receiving apparatus with the made value-added information,
and

said receiving apparatus includes:

an output unit operable to receive the value-added
5 information provided by said value-added information providing unit,
and operable to output, by presenting, the value-added information.

2. The vital data utilization system according to Claim 1,
wherein said measurement instruments further includes

10 a clock unit operable to detect measurement time at which
the vital data is measured,

said sending unit is operable to send, to said server, a set of
information including the measured vital data and further the
measurement time,

15 wherein, in said server,

said receiving unit is operable to receive, from said plurality
of measurement instruments, a plurality of sets of information,

said storage unit is operable to hold the plurality of sets of
information including the vital data and the measurement time in
20 association with at least one of the (i) measurement position
information and (ii) residence information,

said database making unit is operable to store the received
plurality of sets of information into said storage unit, and

said value-added information making unit is operable to
25 compute the vital data of the plurality of subjects stored in the
database in association with the measurement time and operable to
make value-added information indicating changes over time of the
geographical distributions of the subjects' vital data.

30 3. The vital data utilization system according to Claim 1,
wherein said vital data measurement unit is operable to
quantitatively measure the subjects' vital data.

4. The vital data utilization system according to Claim 1,

wherein said sending unit is operable to further add, to respective sets of information, measurement instrument identification information for identifying a corresponding measurement instrument and operable to send the respective sets of information including the identification information to said server,

said storage unit is operable to store at least one of the (i) measurement position information indicating the position of the respective measurement instruments and (ii) residence information indicating the positions of the subjects' residence at which the respective measurement instruments are placed, and

said value-added information making unit is operable to read out, from said storage unit, at least one of the (i) measurement position information and (ii) residence information based on the received measurement instrument identification information, and operable to compute the respective vital data based on at least one of the read-out information.

5. The vital data utilization system according to Claim 1,

wherein said sending unit is operable to further add, to respective sets of information, at least one of the (i) measurement position information indicating the positions of the respective measurement instruments and (ii) residence information indicating the positions of the subjects' residence at which the respective measurement instruments are placed, and operable to send the resulting respective sets of information to said server, and

said value-added information making unit is operable to compute the respective vital data based on at least one of the (i) received measurement position information and (ii) residence information.

6. The vital data utilization system according to Claim 1,
wherein said database making unit is operable to update the
database each time of receiving at least one new set of information,
and

5 said value-added information making unit is operable to
update the value-added information based on the updated database.

7. The vital data utilization system according to Claim 1,
wherein said receiving apparatus is placed in at least one of a
10 hospital, a public facility except a hospital and subject's house.

8. The vital data utilization system according to Claim 1,
wherein said vital data measurement unit is operable to
measure vital data that is an indicator of an infection.

15 9. The vital data utilization system according to Claim 8,
wherein the vital data which is an indicator of an infection is
at least one of body temperature, blood pressure, pulse,
cardiograph, oxygen saturation in blood, accelerated pulse wave
20 velocity, the number of white blood cells, C-reactive protein
concentration in blood (CRP), protein concentration in urine, glucose
concentration in urine, amino acid concentration in urine and feces
viscosity.

25 10. The vital data utilization system according to Claim 9,
wherein the protein in urine is at least one of albumin,
globulin, hemoglobin and myoglobin.

11. The vital data utilization system according to Claim 1,
30 wherein said vital data measurement unit is placed at housing
equipment in the subject's house.

12. The vital data utilization system according to Claim 11,
wherein the housing equipment is a toilet apparatus or a bed,
and

said vital data measurement unit includes at least one of a
5 thermometer, a blood-pressure meter, a pulsimeter, an
electrocardiograph and a meter of oxygen saturation in blood that
are for measuring the vital data, and said vital data measurement
unit measures the vital data at the time when the subject uses the
toilet apparatus or the bed.

10 13. The vital data utilization system according to Claim 11,
wherein the housing equipment is a toilet apparatus, and
said vital data measurement unit includes a urine analyzer
and measures the vital data at the time when the subject uses the
15 toilet apparatus.

14. The vital data utilization system according to Claim 13,
wherein the urine analyzer mixes urine of the subject and a
reagent including an antibody that specifically combines with an
20 analysis target component, measures turbidity of a resulting mixed
solution, and measures the analysis target component in the urine.

15. The vital data utilization system according to Claim 1,
wherein said server further includes
25 a charging unit operable to calculate a charge for value-added
information provided to said receiving apparatus.

16. The vital data utilization system according to Claim 15,
wherein said server further includes
30 an incentive calculation unit operable to calculate an
incentive to each subject.

17. The vital data utilization system according to Claim 16,
wherein said incentive calculation unit is operable to add, to a
charge calculated by said charging unit, a value of the incentive to
each subject.

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18. The vital data utilization system according to Claim 16,
wherein said incentive calculation unit is operable to calculate
points to be exchanged for at least one of (i) a right to receive the
value-added information, (ii) a right to receive a discount from a
rate of the value-added information, (iii) a right to receive a free
distribution of or a discount from a sale price of a commodity to be
used by said vital data measurement unit, (iv) a right to receive
another service, and (v) a right to receive a free distribution of or a
discount from a sale price of another commodity.

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19. The vital data utilization system according to Claim 1,
wherein said receiving apparatus is a mobile type apparatus
and further includes a present position detection unit operable to
detect a present position, and

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said output unit is operable to receive value-added
information indicating a geographical distribution of the vital data of
the subjects who are at the detected present position and a
peripheral part of the detected present position, and operable to
output, by presenting, the value-added information.

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20. A server in a system in which said server, a receiving
apparatus and measurement instruments are connected to each
other via a communication network, comprising:

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a receiving unit operable to receive, from a plurality of
measurement instruments, a plurality of sets of information
including measured vital data and measurement time;

a storage unit operable to hold the plurality of sets of

information in association with at least one of (i) measurement position information indicating a position of the each measurement instrument and (ii) residence information indicating a position of each subject's residence at which the each measurement instrument is placed;

a database making unit operable to store the received plurality of sets of information into said storage unit and operable to make a database;

a value-added information making unit operable to compute the respective vital data of a plurality of subjects stored in the database in association with the measurement time, and operable to make value-added information having an additional value indicating a geographical distribution of the vital data or changes over time of the geographical distributions based on at least one of the measurement position information and the residence information; and

a value-added information providing unit operable to provide the receiving apparatus with the made value-added information.

21. The server according to Claim 20,

wherein said receiving unit is operable to receive, from the respective measurement instruments, sets of information to which measurement instrument identification information for identifying respectively corresponding measurement instruments are further added,

said storage unit is operable to previously hold at least one of (i) measurement position information indicating positions of the respective measurement instruments and (ii) residence information indicating positions of subjects' residences at which the respective measurement instruments are placed, and

said value-added information making unit is operable to read out, from said storage unit, at least one of the (i) measurement

position information and (ii) residence information based on the received measurement instrument identification information, and operable to compute the respective vital data based on at least one of the read-out information.

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22. The server according to Claim 20,

wherein said receiving unit is operable to receive, from the respective measurement instruments, the sets of information to which at least one of the (i) measurement position information
10 indicating the position of the each measurement instrument and (ii) residence information indicating the position of each subject's residence is further added, and

said value-added information making unit is operable to compute the each vital data based on at least one of the (i)
15 received measurement instrument position information and (ii) residence information.

23. The server according to Claim 20,

wherein said database making unit is operable to update the
20 database each time of receiving at least one new set of information, and

said value-added information making unit is operable to update the value-added information based on the updated database.

24. A vital data utilization method used for a system in which a server, a receiving apparatus, and a plurality of measurement instruments are connected to each other via a communication network, said vital data utilization method comprising:

in the measurement instruments,

30 measuring vital data of a subject;

detecting measurement time at which the vital data is measured; and

sending, to the server, a set of information including the measured vital data and the measurement time,

in the server including a storage unit operable to hold a plurality of sets of information, one of which being the set of
5 information

receiving, from the plurality of measurement instruments, the plurality of sets of information, one of which being the set of information;

storing the received plurality of sets of information into the
10 storage unit in association with at least one of (i) measurement position information indicating positions of the respective measurement instruments and (ii) residence information indicating positions of subjects' residences at which the respective measurement instruments are placed and making a database;

15 making value-added information indicating a geographical distribution of the vital data or changes over time of the geographical distributions based on at least one of the (i) measurement position information and (ii) residence information included in the sets of information of a plurality of subjects that are
20 stored in the database; and

providing the receiving apparatus with the made value-added information, and

in the receiving apparatus,

outputting the value-added information provided in said
25 providing of the value-added information.

25. A vital data utilization method for a server in a system in which the server, a receiving apparatus, and a plurality of measurement instruments are connected to each other via a
30 communication network, the server further including a storage unit operable to hold sets of vital data, the vital data utilization method comprising:

receiving, from the plurality of measurement instruments, a plurality of sets of information including measured vital data and measurement time;

5 storing the received plurality of sets of information into the storage unit in association with at least one of (i) measurement position information indicating positions of the respective measurement instruments and (ii) residence information indicating positions of subjects' residences at which the respective measurement instruments are placed and making a database;

10 making value-added information indicating a geographical distribution of the vital data or changes over time of the geographical distributions based on at least one of the (i) measurement position information and (ii) residence information included in the sets of information of the plurality of subjects that
15 are stored in the database; and

providing the receiving apparatus with the made value-added information.

26. A program for a server in a system in which the server, a
20 receiving apparatus, and a plurality of measurement instruments are connected to each other via a communication network, the server including a storage unit operable to hold plurality of sets of information, the program causing a computer to execute:

receiving, from the plurality of measurement instruments,
25 the plurality of sets of information including measured vital data and measurement time;

storing the received plurality of sets of information into the storage unit in association with at least one of (i) measurement position information indicating positions of the respective
30 measurement instruments and (ii) residence information indicating positions of subjects' residences at which the respective measurement instruments are placed and making a database;

making value-added information indicating a geographical distribution of the vital data or changes over time of the geographical distributions based on at least one of the (i) measurement position information and (ii) residence information included in the sets of information of a plurality of subjects that are stored in the database; and

providing the receiving apparatus with the made value-added information.

27. A computer-readable recording medium on which a computer-executable program is recorded, the program causing a computer to execute:

receiving, from a plurality of measurement instruments, a plurality of sets of information including measured vital data and measurement time;

storing the received plurality of sets of information into the storage unit in association with at least one of (i) measurement position information indicating positions of the respective measurement instruments and (ii) residence information indicating positions of subjects' residences at which the respective measurement instruments are placed and making a database;

making value-added information indicating a geographical distribution of the vital data or changes over time of the geographical distributions based on at least one of the (i) measurement position information and (ii) residence information included in the sets of information of a plurality of subjects that are stored in the database; and

providing the receiving apparatus with the made value-added information.

28. Data comprising information specifying each predetermined geographical area and an average value of vital data of a plurality of

subjects calculated for each predetermined geographical area, the information and the average value being associated with each other.

29. A receiving apparatus in a system in which a server, said
5 receiving apparatus and a plurality of measurement instruments are connected to each other via a communication network, said receiving apparatus comprising

an output unit operable to receive information provided by the server, and operable to output, by presenting, the information,

10 wherein, in the system,

each of the measurement instruments includes:

a vital data measurement unit operable to measure vital data of a subject;

a clock unit operable to detect measurement time at which
15 the vital data is measured; and

a sending unit operable to send, to the server, a set of information including the measured vital data and the measurement time,

the server includes:

20 a receiving unit operable to receive, from a plurality of measurement instruments, a plurality of sets of information, one of which being the set of information;

a storage unit operable to hold the plurality of sets of information in association with at least one of (i) measurement
25 position information indicating positions of respective measurement instruments and (ii) residence information indicating positions of subjects' residences at which the respective measurement instruments are placed;

a database making unit operable to store the received
30 plurality of sets of information into the storage unit and operable to make a database;

a value-added information making unit operable to compute

the vital data of a plurality of subjects stored in the database in association with the measurement time and operable to make value-added information indicating a geographical distribution of the vital data or changes over time of the geographical distributions;
5 and

a value-added information providing unit operable to provide said receiving apparatus with the made value-added information, wherein said output unit is operable to receive the value-added information provided by said value-added information
10 providing unit, operable to output, by presenting, the value-added information.

30. The receiving apparatus according to Claim 29, the receiving apparatus being a mobile type apparatus and further comprising

15 a present position detection unit operable to detect a present position,

wherein said output unit is operable to receive value-added information indicating a geographical distribution of the vital data of the plurality of subjects who are at the detected present position
20 and a peripheral part of the detected present position, and operable to output, by presenting, the value-added information.